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SBA

Business Basics

Capital Planning

A Self-Instructional Booklet
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KEEP THIS GUIDE SHEET -- FOR INSTRUCTOR'S USE ONLY

CAPITAL PLANNING
Instructor's Guide Sheet

This booklet contains:

1. Planning Capital Needs
2. Balance Sheet Analysis -- Cash
3. Working Cash Balance
4. Plan Asset Needs
5. Funding Increases in Assets
6. Covering Credit Sales
7. Forecasting Inventory Levels
8. Forecast Asset Accounts
9. Operations Capital
10. Capital From Trade Sources
11. Additional Capital Needs

Supplementary Instruction:

1. Use the client's profit plan to estimate workable cash balance.

2. Forecast accounts receivable balance, based on expected sales, payment history, and credit and collection policy.

3. Estimate inventory investment to accommodate expected sales.

4. Consider the effect on the capital structure of any planned fixed asset acquisition.

5. Review decisions increasing other assets, such as prepaid expenses, that could affect the need for additional capital.

6. Consider the availability of extra capital from trade sources.

7. Estimate the capital available from operations, after considering income as projected in the profit plan, and any expectations for dividends or drawings.

8. Estimate the amount of extra capital that will be needed in the coming period.

NOTE: Prior to taking this booklet the participant should have completed the following booklets:

Asset Management
Credit and Collections: Policy and Procedures
Inventory Management
Understanding Costs
Cost Control
The Profit Plan

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INTRODUCTION

Major Small Business Problem

Inadequate capital is one of the most acute problems that plague small businesses. It is not only the cause of many small business failures, but also a constant concern to the survivors. Even successful small businesses, with continuing records of growing sales and profit, often find themselves with unanticipated cash shortages. These cash shortages occur because sales growth demands increased inventories, accounts receivable, and facilities that may outpace the growth in income.

Avoiding Crises

Cash shortages are often aggravated by the fact that they may not be detected until a serious crisis arises. Trade credit is lost, a payroll cannot be met, or a note payment is missed. The business must seek additional capital immediately and therefore on the worst possible terms.

Advantages of Planning

With adequate planning of capital needs, these crises can often be avoided. The small business owner can forecast future cash requirements so that the amount needed can be determined well in advance. Alternate sources can be explored so that borrowing can be held to a minimum, avoiding excessive interest costs, avoiding the possibility of burdening the business with excessive debt, and improving the chances of securing the capital needed.

The development of a financial plan provides the owners with time to secure capital on the best terms available long before their bargaining power has been eroded by the urgency of their need. The development of such a plan will also permit the small business owner to present a more persuasive argument to lenders or investors, enhancing their confidence in the business as a safe place to put their money.

Control

A financial plan will also provide guidelines for all asset and liability accounts so that actual balances can be compared regularly with the plan and any problems detected at the earliest possible date so that corrective measures can be taken promptly and economically.

Booklet Objectives

This booklet has been designed to help you forecast the cash requirements of your business. In this booklet, you will learn how to do the following:

- Analyze your balance sheet to determine where your cash has come from and where it has gone.
- Establish a minimum cash balance required to meet your day-to-day working needs.
- Determine the level of accounts receivable that will be created by your credit sales.
- Estimate the inventory levels required to support your expected sales volume.
- Project changes in other asset accounts such as fixed assets.
- Determine the amount of capital that will be available from trade creditors so that the need for borrowing or additional investment will be minimized.
- Determine the amount of capital that will be provided from operations in the coming year.
- Combine your forecast of all assets, liabilities, and net worth accounts to determine the amount of extra capital that will be needed in the coming year.

Cash Flow Statement

The flow of cash in any given period can be determined by analysis of balance sheet changes that occurred from the beginning of the period to the end. Such a statement is variously known as any of the following:

. Cash Flow Statement

. Funds Flow Statement

. Sources and Applications of Funds

. Sources and Uses of Funds

. "Where Got-Where Gone"

Major Corporation Financial Reports

Recently, financial reports of major corporations have included a "Statement of Changes in Financial Position" with the income statement and balance sheet. This statement analyzes changes in net working capital, the difference between current assets and current liabilities, and is prepared to meet the needs of shareholders.

Small Business Needs

For purposes of small business owners, a different format is more appropriate in order to analyze changes in individual current asset and current liability accounts. This format, which we shall call a "Cash Flow Statement," will be discussed in this module.

To see how such a statement is developed, refer to the worksheet on Exhibit 1. Exhibit 1 shows the balance sheets of Western Appliances at the end of 1978 and 1979. These two balance sheets will be compared on the worksheet in order to determine the sources of cash that became available to Western Appliances in 1979 and how that cash was used.

Worksheet

The worksheet has four columns. The first two columns, headed 12/31/78 and 12/31/79, represent the balance sheets for Western Appliances on these dates. Assets appear on the top half of the worksheet and liabilities and net worth are shown on the lower half. The last two columns are headed Uses and Sources.

Assets

In the assets section, a plus (+) sign appears in the Uses column, while a minus (-) sign appears in the Sources column. These signs indicate that increases in asset balances represent uses of cash while decreases in asset balances represent sources of cash.

For example, a decrease in inventory or accounts receivable would produce cash and would therefore be sources of funds. An increase in inventory or accounts receivable would require the use of the firm's cash. Similarly, the acquisition of fixed assets would require cash and the sale of fixed assets would generate cash.

* * * * *

1. Increases in asset balances are (USES/SOURCES) of cash.

USES

---

2. Decreases in asset balances are (USES/SOURCES) of cash.

SOURCES

---

3. An increase in accounts receivable from $25,000 to $30,000 would be a (USE/SOURCE) of cash.

USE

---

4. A decrease in accounts receivable would be a (USE/SOURCE) of cash.

SOURCE

---

* * * * *

Liabilities and Net Worth

Increases in asset balances are uses of cash, while decreases in asset balances are sources of cash. The opposite is true for the liabilities and net worth section of the balance sheet. Increases in liabilities are sources of cash. Decreases in liabilities are uses of cash.

For example, if you increased the amount of a loan from your bank, you would be increasing the cash available to you. On the other hand, repayment of a loan would reduce your liability to the bank and would require the use of cash.

Therefore, you will note in the liabilities and net worth section of the worksheet on Exhibit 1 that a minus (-) sign appears in the Uses column and a plus (+) sign appears in the Sources column.

The balance sheets shown on Exhibit 1 do not include any subtotals such as current assets, net fixed assets, current liabilities, total liabilities, or total net worth. However, all of the individual accounts that comprise the balance sheet are shown. To include the subtotals could therefore create duplication.

* * * * *

1. An increase in an asset balance is a (SOURCE/USE) of cash.

USE

---

2. An increase in a liability balance is a (SOURCE/USE) of cash.

SOURCE

---

3. An increase in a net worth account is a (SOURCE/USE) of cash.

READEX FICHE

SOURCE

---

4. If your inventory increased from $30,000 to $40,000 in a year, this would be a (SOURCE/USE) of cash.

USE

---

5. If your obligations to trade creditors increased by $25,000 in a year, this would be considered a (SOURCE/USE) of cash.

SOURCE

---

6. A decrease in accounts payable to trade creditors would be a (SOURCE/USE) of cash.

USE

---

7. An increase in the owners' investment in the business would be a (SOURCE/USE) of cash.

SOURCE

---

8. An increase in retained earnings would be a (SOURCE/USE) of cash.

SOURCE

---

9. Repayment of a long-term debt would be a (SOURCE/USE) of cash.

USE

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* * * * *

Analyzing Balance Sheet Changes

The cash flow statement is developed by determining the change in each balance sheet account and posting the change to the appropriate column, Sources or Uses, on the worksheet of Exhibit 1.

For example, Western Appliances' cash balance increased from $25,000 to $30,000 in 1979. This represents an increase (+) of $5,000 ($30,000 - $25,000). The increase of $5,000 is posted in the Uses (+) column.

Accounts receivable decreased from $120,000 to $100,000, a change of $20,000 ($120,000 - $100,000). This decrease is posted in the Sources (-) column.

* * * * *

1. Western Appliances' accounts receivable balance declined during 1979. This change represents a (SOURCE/USE) of cash.

SOURCE

---

2. The amount of the decrease in accounts receivable during 1979 was $_____.

$20,000 ($120,000 - $100,000)

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3. Western Appliances' inventory was $120,000 on December 31, 1978, and $160,000 on December 31, 1979. Therefore, it (INCREASED/DECREASED) by $_____ during the year.

INCREASED
$40,000 ($160,000 - $120,000)

---

4. This inventory increase of $40,000 should be posted in the (USES/SOURCES) column.

USES (+)

---

5. Western Appliances' fixed assets were $40,000 on December 31, 1978, and $50,000 on December 31, 1979. Therefore, the total value of fixed assets (INCREASED/DECREASED) by $10,000 during 1979.

INCREASED

---

6. The increase of $10,000 in fixed assets should be posted in the (USES/SOURCES) column.

USES (+)

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* * * * *

Analyzing Depreciation

The last account shown in the assets section of the worksheet on Exhibit 1 is Accumulated Depreciation. Accumulated depreciation is a negative balance. Since it is a negative balance, increases in accumulated depreciation represent decreases in the total value of assets.

Like all decreases in asset values, the amount of the decrease is posted in the Sources (-) column.

For example, Exhibit 1 shows that accumulated depreciation was $15,000 on December 31, 1978, and $20,000 on December 31, 1979. This difference, $5,000, indicates a decline in the value of fixed assets of $5,000. Therefore, it is posted in the Sources (-) column.

Increases in the accumulated depreciation balance represent the net amount of depreciation expense charged against income during the period.

Depreciation expense, unlike most expenses, does not represent an outlay of cash during the period. Therefore, it must be added back to net income as a source of funds for the period.

* * * * *

1. Accumulated depreciation is $10,000 at the beginning of a period and $12,000 at the end. The change during the period represents:

   a. a $2,000 increase in an asset value
   b. a $2,000 decrease in an asset value

---

   b. a $2,000 decrease in an asset value

---

2. This $2,000 decrease in an asset value would be considered a (SOURCE/USE) of cash.

   SOURCE

---

3. Accumulated depreciation is $45,000 at the beginning of a period and $40,000 at the end. The $5,000 decrease is a (SOURCE/USE) of cash.

   USE

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* * * * *

Analyzing Liabilities and Net Worth

In the liabilities and net worth section of the worksheet, increases in account balances are posted in the Sources (+) column and decreases in account balances are posted in the Uses (-) column.

For example, on December 31, 1978, Western Appliances did not have any note payable to the bank. On December 31, 1979, there was a $20,000 note payable. This increase of $20,000 is posted in the Sources (+) column.

During 1979, accounts payable grew by $20,000 from $80,000 to $100,000. This increase in accounts payable is a source of cash and is therefore posted in the Sources (+) column on Exhibit 1.

The third liability account represents the portion of long-term debt that is currently due. This is the amount of Western Appliances' total long-term debt that must be paid within 12 months of the balance sheet date. You will note that there is no change in the balance from December 31, 1978, to December 31, 1979. Since there is no change in this balance, there is no entry in either the Uses or Sources column.

* * * * *

1. Western Appliances' accrued liabilities on December 31, 1978, were $10,000. On December 31, 1979, the balance was $15,000. Since the amount (INCREASED/DECREASED), it is a (SOURCE/USE) of cash.

INCREASED
SOURCE

---

2. On December 21, 1979, Western Appliances' long-term debt was (MORE/LESS) than at the beginning of the year.

LESS ($25,000 vs. $50,000)

---

3. The decrease in long-term debt was $_____.

$25,000 ($50,000 - $25,000)

---

4. The decrease of $25,000 in long-term debt would be entered in the (USES/SOURCES) column.

USES (-)

---

* * * * *

Net Worth

There was no change in the capital stock of Western Appliances during 1979. Apparently, no stock was issued or retired during the year. Since the amount is unchanged, there is no entry in either the Uses or Sources column.

Retained earnings increased by $10,000 ($85,000 - $75,000), a source of cash to the business.

Profit Retention

Changes in the retained earnings account in any period are equal to the net income for the period minus any dividends or drawings to compensate owners for their investment during the period.

For example, if a business had retained earnings of $100,000 at the beginning of the period, net income for the period was $50,000, and $20,000 in dividends were paid to the owners, retained earnings at the end of the period would be calculated as follows:

Retained Earnings, beginning of period		$100,000
plus: Net Income	+	50,000
less: Dividends	-	20,000
Retained Earnings, end of period	=	$130,000

Changes in retained earnings represent that portion of net income that the owners have agreed to leave in the business so that it can grow. Western Appliances' net income in 1979

was $19,000. Apparently, $9,000 of this was declared as a dividend to the owner and the remaining $10,000 was reinvested in the busines.

* * * * *

1. Increases in retained earnings would be considered a (SOURCE/USE) of cash.

SOURCE

---

2. A business had net income of $75,000 in a year. Of this amount, $30,000 was paid to the owners as a dividend. The increase in retained earnings would be $_____.

$45,000 ($75,000 - $30,000)

---

3. If the beginning balance of retained earnings was $200,000, the closing balance would be $_____.

$245,000 ($200,000 + $45,000)

---

* * * * *

Totals

Total uses and sources of cash appear on the last line of the worksheet. You will note that separate totals are not shown for assets or liabilities and net worth. Since both uses and sources of cash can arise from asset, liability, or net worth accounts, the totals on Exhibit 1, $80,000 in each column, were determined by simply adding all uses and all sources of cash respectively.

Equality Check

In any period, the total uses of cash must equal total sources. The totals in themselves have no particular significance, but their equality provides a useful check on the accuracy of the statement preparation.

Exhibit 2 is a summary of sources and uses of cash for Western Appliances in 1979. It is constructed simply by listing the sources and uses separately, transferring the amounts directly from the worksheet of Exhibit 1. This summary permits management to tell at a glance where cash came from during the year and how it was used.

For example, management of Western Appliances could quickly see that cash in 1979 came from a reduction in accounts receivable, depreciation, and bank note payable; increases in accounts payable and accrued liabilities; and an increase in retained earnings derived from net operating income.

These funds were used to increase the cash balance, increase inventory, acquire fixed assets, and reduce long-term debt.

FORECASTING ASSET BALANCES

Cash Flow and Profit Plan

A profit plan tells you the sales, expenses, and net income that you can expect from your business in a coming period. It is equally important that you know what the capital position of your business will be in the future. Even highly profitable, apparently successful businesses can find themselves short of cash. As sales grow, inventories and receivables also grow, fixed assets are acquired, and obligations to creditors increase. Unless the business has sufficient financial strength to meet these needs, the effort expended in building sales and profit can be wasted.

Forecasting Sources and Uses of Cash

Development of the worksheet for sources and uses of cash permits you to develop a forecast of funds requirements for the coming year. With this forecast, you can anticipate any additional cash that your business might need.

The forecast is developed by using the current balance sheet with the sales, expense, and net income forecast from the profit plan. Additionally, you must consider planned activities such as the acquisition of fixed assets, debt repayment obligations, and so on, that are not reflected in the profit plan.

Pro Forma Balance Sheet

This information will permit you to prepare a "pro forma," or projected, balance sheet for the end of the coming period. Basically, the pro forma balance sheet is prepared by estimating, or forecasting, year-end balances for each balance sheet account. How much should the minimum cash balance be? What will receivables be? What will accounts payable (obligations to trade creditors) be?

Estimating Asset Balances

Development of the pro forma balance sheet begins with estimating the various asset balances that will be required at the year-end to accommodate the expected volume of business in the coming year.

Minimum Cash Balance

The first amount that must be estimated is the minimum cash balance needed to meet day-to-day requirements. For any

business, this can vary, depending upon such factors as industry practices, the size of the business, and the rate at which inventories and receivables turn over.

The minimum cash balance is usually determined by calculating the average weekly (or monthly) outlay for inventory and expenses. In businesses with a high proportion of cash sales or relatively uniform collections of receivables from day to day, a cash balance equal to one average week's cash outlay could be sufficient. If receivables collections are slower, as in businesses with relatively few invoices for large amounts, a one-month's or two-months' supply of cash might be required.

For Western Appliances, a realistic estimate of the minimum cash balance would probably be one-half of an average month's cash outlay for inventory and expenses.

Determining Cash Outlay

The total cash outlay for expenses would be determined by starting with total expenses, including interest and income taxes, shown on the profit plan of Exhibit 3. Non-cash expenses such as depreciation or amortization of organization expenses are then deducted from total expenses.

Total Operating Expenses	$218,000
Interest	17,000
Income Taxes	15,000
	$250,000
less: Depreciation	8,000
	$242,000

Exhibit 3 also shows that the forecast for cost of sales in 1980 is $1,120,000. If Western Appliances expects to sell merchandise with this value, it is reasonably safe to assume that purchases for inventory replenishment must be made in approximately this amount throughout the year.

Their total cash disbursements for inventory and expenses in the coming year would then be calculated as follows:

Inventory	$1,120,000
Expenses	242,000
Disbursements	$1,362,000

To reduce this amount to a half-month's equivalent, you divide the total by 24. The required cash balance on December 31 would therefore be calculated as follows:

$1,362,000 ÷ 24 = $56,750 rounded to $57,000

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This estimate should be increased for any known extraordinary cash requirements that might occur shortly after December 31. These could include loan repayments, outlays for fixed assets, prepaid expenses, and so on. Since there are no indications that any such requirements exist at Western Appliances, the forecast cash balance for December 31 shall remain $57,000. This amount is posted to the 12/31/80 cash balance on Exhibit 4.

* * * * *

1. Inventory purchases for the year should be approximately equal to the cost of sales. (TRUE/FALSE)

TRUE

---

2. To estimate total cash disbursements, you add cost of sales and total _____.

---

expenses

---

3. Any non-cash expenses in the profit plan should be (ADDED TO/DEDUCTED FROM) total expenses to estimate the cash requirement.

DEDUCTED FROM

---

4. The most common non-cash expense is _____.

---

depreciation

---

5. A company's cost of sales is forecast at $200,000. Total expenses are forecast at $110,000. Of this amount, $10,000 is depreciation. The estimate of total disbursements for the year would then be $_____.

$300,000 ($200,000 + $110,000 - $10,000)

---

6. If a company has a minimum cash balance requirement of one average month's disbursements, you would divide total disbursements by _____ to determine the minimum balance.

12

---

7. With total annual cash disbursements of $300,000 and a minimum cash balance requirement of one month's disbursements, the minimum balance should be $_____.

$25,000 ($300,000 ÷ 12)

---

8. A cash balance of one month's cost of sales and cash expenses is adequate for all businesses. (TRUE/FALSE)

FALSE (It will vary from business to business.)

---

9. If receivables collections are erratic, the minimum cash balance requirement would probably (INCREASE/DECREASE).

INCREASE

---

* * * * *

Forecasting Accounts Receivable

The year-end accounts receivable balance depends upon the sales forecast, customer payment history, and any planned changes in credit or collection practices that could either accelerate or decelerate the rate of collections.

Average Collection Period

To estimate receivables, determine the average collection period, which expresses total receivables in terms of an equivalent number of days' sales. This is calculated as follows:

Collection Period = Accounts Receivable ÷ Average Daily Sales

In 1979, Western Appliances' sales were $1,200,000. Therefore, average daily sales would be calculated as follows:

$1,200,000 ÷ 360 = $3,333

Accounts receivable on the December 31, 1979, balance sheet are $100,000. The collection period (days' supply) for accounts receivable would then be calculated as follows:

Collection Period = Accounts Receivable ÷ Average Daily Sales

Collection Period = $100,000 ÷ $3,333

Collection Period = 30 days

* * * * *

1. To calculate the collection period (days' supply) of receivables, you divide total outstanding receivables by _____.

---

average daily sales

---

2. If annual sales are $360,000, average daily sales are $_____.

$1,000 ($360,000 ÷ 360)

---

3. If accounts receivable are $36,000 and average daily sales are $1,000, the days' supply (collection period) would be _____.

---

36 ($36,000 ÷ $1,000)

---

4. If a company's average collection period is 45 days, it means that the total balance of receivables outstanding is equal to 45 days' average _____.

---

sales

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* * * * *

Changes in Collection Period

The owners of Western Appliances must decide whether or not the average collection period will continue to be 30 days. This period could increase if customers are experiencing cash flow problems or if building sales requires the addition of marginal accounts. On the other hand, the collection period could decrease if the business has noted an improving trend in collections or if it intends to be more restrictive in issuing credit, more vigorous in pursuing collections, or accelerate payment by offering cash discounts.

Assume that Western Appliances expects the average collection period to continue at 30 days. With a 1980 sales forecast of $1,400,000, average daily sales would be as follows:

Average Daily Sales = Annual Sales ÷ 360

Average Daily Sales = $1,400,000 ÷ 360

Average Daily Sales = $3,889

If accounts receivable continue at a 45 days' supply, the year-end balance could then be calculated as follows:

Accounts Receivable = Average Daily Sales x Collection Period

Accounts Receivable = $3,889 x 30

Accounts Receivable = $116,670, rounded to $117,000

This amount is then posted in the Assets column of Exhibit 4 for December 31, 1980.

Forecasting Inventory Requirements

Inventory can be expressed in terms of days' supply. This is calculated as follows:

Days' Supply = Inventory ÷ Average Daily Cost of Sales

In 1979, Western Appliances' cost of sales was $960,000. The average daily cost of sales would be calculated as follows:

Average Daily Cost of Sales = Annual Cost of Sales ÷ 360

Average Daily Cost of Sales = $960,000 ÷ 360

Average Daily Cost of Sales = $2,667

Inventory on December 31, 1979, was $160,000. The days' supply is calculated as follows:

Days' Supply = Inventory ÷ Average Daily Cost of Sales

Days' Supply = $160,000 ÷ $2,667

Days' Supply = 60

* * * * *

1. To determine the days' supply of inventory, you divide the balance in inventory by:

   a. average daily sales
   b. average daily cost of sales

---

   b. average daily cost of sales

---

2. A company's annual sales are $240,000. The cost of sales is $180,000. The average daily cost of sales is $_____.

$500 ($180,000 ÷ 360)

---

3. If the inventory is $10,000 and the average daily cost of sales is $500, the days' supply in inventory would be _____ days.

---

20 ($10,000 ÷ $500)

---

* * * * *

Forecasting Days' Supply

To estimate a realistic days' supply of inventory, you must first decide whether or not inventory shortages have caused lost sales, in which case the days' supply should probably be increased. If not, you might consider restricting your inventory investment, storage requirements, or record keeping by operating on a lower days' supply.

Assume that the management of Western Appliances feels that the application of systematic inventory controls throughout the year would permit a reduction of inventory from a 60 days' supply to 55 days' supply without any significant loss of sales volume.

The estimated average daily cost of sales for 1980 is $3,111 ($1,120,000 ÷ 360). The inventory requirement at year-end would be calculated as follows:

Inventory = Average Daily Cost of Sales x Days' Supply

Inventory = $3,111 x 55

Inventory = $171,105, rounded to $171,000

This amount is entered in the Assets column of Exhibit 4 for December 31, 1980.

* * * * *

1. To forecast a year-end inventory level, two separate factors must be forecast. These are:

   1.
   2.

---

   cost of sales
   days' supply

---

2. Which of the following would suggest increasing the forecast of days' supply from the present level?

   a. closer inventory control
   b. history of lost sales
   c. addition of new product lines

---

   b. history of lost sales
   c. addition of new product lines

---

3. Installation of a more sophisticated inventory control system would probably prompt you to (INCREASE/DECREASE) your forecast for days' supply.

   DECREASE

---

4. To determine year-end inventory, you multiply days' supply by average daily (SALES/COST OF SALES).

   COST OF SALES

---

5. Given a sales forecast of $540,000, a cost of sales forecast of $360,000, and a 45 days' supply requirement, determine the required inventory balance. $_____

$45,000 ($360,000 ÷ 360 = $1,000; $1,000 x 45 = $45,000)

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* * * * *

Fixed Assets

Western Appliances plans to acquire new equipment at a cost of $10,000 in 1980. This $10,000 will then be added to the current fixed asset balance, producing a total of $60,000, as entered on the worksheet of Exhibit 4.

Disposal of Fixed Assets

Western Appliances does not plan to dispose of any fixed assets during the year. However, if any such sales or retirements are planned, the original cost of these assets should be deducted in determining the year-end fixed asset balance as follows:

Opening Balance
\+ Cost of Fixed Assets Acquired
\- Original Cost of Fixed Assets Sold or Retired
= Closing Balance

For example, assume that a business has an opening fixed asset balance of $100,000. During the year, it plans to acquire new fixed assets at a cost of $25,000 and dispose of fixed assets that originally cost $15,000. The closing balance forecast would then be calculated as follows:

Opening Balance		$100,000
Acquisitions	+	25,000
less: Retirements	-	15,000
Closing Balance	=	$110,000

Accumulated Depreciation

The forecast of the year-end accumulated depreciation balance is calculated by adding expected depreciation expense to the current accumulated depreciation balance. For example, if the opening balance is $20,000 and estimated depreciation expense for the year is $5,000, the year-end balance would

be calculated as follows:

Opening Balance	$20,000
+ Depreciation Expense	5,000
= Closing Balance	$25,000

A deduction must be made for the accumulated depreciation on any fixed assets retired (sold or taken out of service) during the year. For example, if a business has accumulated depreciation of $30,000, a depreciation expense forecast of $6,000, and expects to retire a fully depreciated machine with accumulated depreciation of $5,000, the closing balance would be calculated as follows:

Opening Balance		$30,000
Depreciation Expense	+	6,000
less: Retirements	-	5,000
Closing Balance	=	$31,000

Western Appliances plans no fixed asset retirements during the year. Therefore, the only change in the accumulated depreciation balance would be the increase for the depreciation expense forecast, $8,000. Therefore, accumulated depreciation on December 31, 1980, is as follows:

Opening Balance	$20,000
+ Depreciation Expense	8,000
= Closing Balance	$28,000

This amount is then entered on Exhibit 4.

Other Assets

Similar forecasts should also be made for any other assets such as prepaid expenses, organization expenses, securities, and so forth. Since there are no other assets at Western Appliances, the asset forecasts are complete.

Total Assets

Total assets, the sum of all forecast asset balances, are $377,000. This amount is entered on Exhibit 4.

* * * * *

1. To determine your closing balance forecast for fixed assets, add the amount of any planned acquisitions and deduct the original value of any fixed assets that will be _____ during the year.

---

retired (sold, disposed of)

---

2. At the beginning of the year, a business has fixed assets of $100,000. During the year, it plans to acquire additional fixed assets at a cost of $35,000 and retire an asset with an original cost of $15,000. The closing balance in the fixed asset account would then be $_____.

$120,000 ($100,000 + $35,000 - $15,000)

---

3. To the opening balance of accumulated depreciation, add the estimated depreciation expense for the year and deduct the accumulated depreciation on any assets _____ during the year.

---

retired

---

4. The opening balance of accumulated depreciation is $50,000. Estimated depreciation expense for the year is $10,000. A fully depreciated machine with an original cost of $5,000 will be retired. Therefore, the closing balance for accumulated depreciation will be _____.

$55,000 ($50,000 + $10,000 - $5,000)

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* * * * *

FORECASTING LIABILITIES AND NET WORTH

Completing the Pro Forma Balance Sheet

After year-end asset balances have been forecast, similar analyses must be performed for liabilities and net worth to complete the pro forma balance sheet.

Notes Payable-Bank

The first liability shown on Exhibit 4 is note payable-bank. For the time being, we will ignore this account in our analysis since any cash deficiency is likely to be made up by attempting to increase this balance. Similarly, any excess cash that might be available would be applied to reduce this note and save interest expense.

Accounts Payable

The first account we will analyze is accounts payable. This represents obligations to suppliers and other trade creditors. It includes amounts owed on inventory purchases, supplies, rent, and similar goods and services that the company acquires from outside sources.

Accounts payable does not include payroll-related expenses such as salaries, payroll taxes, and employee benefits as these would normally be included in an accrued liability account. Similarly, it does not include items such as interest and tax liabilities which would also be included in accrued liabilities.

The current 35-day equivalent indicates that Western Appliances is holding its accounts payable at a level that might be a little high, but should sustain good working relationships with suppliers. However, management feels that this should be improved to 30 days if the business is to take advantage of available cash discounts.

The year-end balance of accounts payable is then calculated by first determining total purchases expected in the year. These are:

	Cost of Sales	$1,120,000
+	Total Operating Expenses	218,000
-	Payroll Expenses	140,000
-	Depreciation	8,000
=	Total	$1,190,000

Average daily purchases would then be:

$$\$1,190,000 \div 360 = \$3,306$$

If Western Appliances plans to maintain accounts payable at a 30-day level, the year-end balance in accounts payable would then be:

Accounts Payable = Average Daily Purchases x Days' Purchases

Accounts Payable = $3,306 x 30

Accounts Payable = $99,180, rounded to $100,000

This account is posted to Exhibit 4. You will note that there is no change from the closing balance of December 31, 1979. This is because the increase in purchases was offset by a decrease in days' supply.

Days' Purchases

The accounts payable balance can be expressed in terms of an equivalent number of days' purchases. This is done by adding the cost of sales to total operating expenses after deducting payroll expenses, payroll-related expenses, and non-cash expenses. For example, Western Appliances' total 1979 purchases would be calculated as follows:

Cost of Sales	$ 960,000
+ Total Operating Expenses	200,000
- Payroll Expenses	128,000
- Depreciation	8,000
= Total	$1,024,000

This represents average daily purchases of $2,844. The accounts payable balance, $100,000, is then reduced to an equivalent number of days' purchases as follows:

Days' Purchases = Accounts Payable ÷ Average Daily Purchases

Days' Purchases = $100,000 ÷ $2,844

Days' Purchases = 35 days

Acceptable Days' Purchases

The days' supply of purchased goods and services that can be maintained in accounts payable will be determined by the normal terms of sale in the industry and relations with suppliers. In some businesses it may be acceptable to maintain 60-day balances. However, 30 days is more typical.

* * * * *

1. The balance in accounts payable can be expressed in terms of an equivalent number of days':

   a. purchases
   b. sales

---

   a. purchases

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2. If purchases for the year are $180,000, average daily purchases are $_____.

   $500 ($180,000 ÷ 360)

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3. If accounts payable are $10,000, this represents _____ days' purchases.

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   20 ($10,000 ÷ $500)

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4. Which of the following would be included in accounts payable?

   a. an amount owed for rent
   b. an amount owed for interest
   c. amounts earned by employees but not yet paid
   d. amounts owed to suppliers

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   a. an amount owed for rent
   d. amounts owed to suppliers

---

5. Which liability account on Exhibit 4 would include the company's obligations for unpaid interest and employees' compensation?

---

accrued liabilities

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6. Annual cost of sales is $600,000 and total operating expenses are $300,000. Of this amount, $150,000 is payroll and $30,000 is depreciation. Total purchases for the year are $_____.

$720,000 ($600,000 + $300,000 - $150,000 - $30,000)

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7. Average daily purchases are $_____.

$2,000 ($720,000 ÷ 360)

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8. To maintain a 30-day level of accounts payable, the balance should be $_____.

$60,000 ($2,000 x 30)

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* * * * *

Current Portion-Long Term Debt

The account, current portion-long term debt, represents the amount of any long-term debt that must be repaid within the coming 12-month period. For example, the balance shown on the December 31, 1979, balance sheet is the portion that must be repaid in 1980.

Repayment Schedule

The portion due in any year is determined from the repayment schedule established when the loan was made. In addition, any amounts already due but not yet paid must be included.

Assume that Western Appliances' long-term debt was created by a 4-year note for which the proceeds were received on November 30, 1977, and the principal repayment schedule was specified as follows:

November 30, 1978	$25,000
November 30, 1979	$25,000
November 30, 1980	$25,000
November 30, 1981	$25,000

Assuming that Western Appliances is current in its obligation, the only amount to be paid within 12 months of December 31, 1980, will be the November 30, 1981, payment of $25,000. Therefore, this should be entered in the liabilities and net worth column of Exhibit 4.

Accrued Liabilities

A precise estimate of accrued liabilities would require a detailed analysis of income tax obligations, interest schedules, payroll due dates, and so on. Unless this amount is large compared to other liabilities and net worth items, it is usually safe to assume that they will remain at approximately the current level. Therefore, the $15,000 balance on December 31, 1979, has also been shown as the December 31, 1980, balance on Exhibit 4.

Long-term Debt

The forecast of long-term debt can be determined by reducing the present balance by the amount of payments scheduled for the coming year. Since Western Appliances will be making a $25,000 payment on November 30, 1980, the only remaining balance will be the current portion, $25,000, representing the November 30, 1981, payment. Therefore, the balance shown for long-term debt is $0.

Capital Stock

A change in the capital stock balance would occur only if the company planned to issue new stock during the year or buy back stock from current shareholders. Assuming that Western Appliances has no such intention for 1980, the $50,000 can be entered as the year-end balance as shown on Exhibit 4.

* * * * *

1. The account, current portion-long term debt, represents the amount of any long-term debt that is due within the next _____.

---

year

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2. The balance could also include any amounts that are _____.

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past due

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3. The balance due at any time is determined from the debt repayment _____.

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schedule

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4. A company signs a 5-year, $50,000 note on July 1, 1979. Principal repayments are to be made in 5 equal amounts on June 30, 1980, through June 30, 1984. The amount shown as current portion-long term debt on the December 31, 1979, balance sheet would be $_____.

$10,000

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5. Any amounts not due within the 12-month period are shown in the account, _____.

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long-term debt

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6. Which of the following would be included in the account, accrued liabilities?

a. amounts owed to suppliers
b. amounts owed for income taxes
c. amounts owed to employees

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b. amounts owed for income taxes
c. amounts owed to employees

---

7. What would cause an increase in the balance shown for capital stock?

Issue of new stock.

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8. What would cause a decrease in the balance shown for capital stock?

Buying back shares.

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* * * * *

Retained Earnings

This account represents the income of the business that has been left in the business by the owners. In any year, the balance will increase by the net income for the year and be reduced by any dividends paid to the owners to compensate them for their investment.

For example, on December 31, 1978, Western Appliances' retained earnings were $75,000. During 1979, net income was $19,000 and the owners received $9,000 in dividends. Therefore, the year-end balance for retained earnings was calculated as follows:

Balance December 31, 1978		$75,000
Net Income, 1979	+	19,000
less: Dividends paid, 1979	-	9,000
Balance December 31, 1979	=	$85,000

To forecast a year-end balance for retained earnings, add the net income forecast to the current balance and deduct any planned dividends. Assume that Western Appliances plans to pay dividends of $15,000 in 1980. The December 31, 1980, retained earnings balance would then be calculated as follows:

Balance December 31, 1979		$ 85,000
Net Income, 1980	+	30,000
less: Dividends paid, 1980	-	15,000
Balance December 31, 1980	=	$100,000

Equality

At this point, balances have been forecast for all asset, liability, and net worth accounts at the end of 1980 except the bank note payable. Since total assets have already been estimated at $377,000, total liabilities and net worth must also be $377,000.

Determining the Bank Note Balance

Therefore, the sum of all other liability and net worth accounts can be subtracted from the total of $377,000 to find the estimated year-end amount of the bank note payable. These would be as follows:

Accounts Payable		$100,000
Current Portion-Long-Term Debt	+	25,000
Accrued Liabilities	+	15,000
Capital Stock	+	50,000
Retained Earnings	+	100,000
Total	=	$290,000

This total should then be subtracted from total liabilities and net worth to determine the year-end balance of the note payable to the bank. This amount is $87,000 ($377,000 - $290,000). This represents an increase of $67,000 ($87,000 - $20,000) from the December 31, 1979, balance.

Review

The owners must then review this figure to determine whether or not it represents a realistic forecast. The owners of Western Appliances are relying heavily upon an increase in short-term bank borrowing to finance their growth in 1980. The expected amount of the bank note payable may be well beyond any realistic measure of the business' borrowing power. Therefore, the owners must explore means of reducing this liability. Perhaps the owners can reevaluate the various asset accounts to see if a lower minimum cash balance is sufficient, if accounts receivable can be restricted, inventories reduced, planned fixed asset purchases cancelled, or fixed assets sold.

Similarly, the owners might look for ways of increasing other liability or net worth accounts. Perhaps accounts payable can be stretched to 45 days without seriously jeopardizing relationships with suppliers or forfeiting discounts. Perhaps long-term debt can be increased through refinancing so that the short-term note can be reduced.

The owners might increase their investment by acquiring more shares or consider eliminating the dividend.

Summary

After the year-end balance sheet forecast has been developed, the anticipated changes should be analyzed and classified as uses or sources of cash. This has been done on Exhibit 4 and summarized on Exhibit 5.

* * * * *

1. On Exhibit 5, identify those asset changes that represent uses of funds in 1980.

   1.
   2.
   3.
   4.

---

cash
accounts receivable
inventory
fixed assets

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2. Since Western Appliances plans to reduce its inventory in 1980, this represents a (SOURCE/USE) of funds.

SOURCE

---

3. On Exhibit 4, identify the sources of funds for Western Appliances in 1980.

1.
2.
3.

---

depreciation
increased note payable
increased retained earnings

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* * * * *

SUMMARY

Attention to Capital Requirements

Successful management of any business requires attention to the capital needs of the business just as it requires attention to sales and expense control.

Guidelines

If you apply the techniques of forecasting capital needs that you have learned in this module to your own business, you will be able to establish guidelines for every asset, liability, and net worth account. These guidelines can quickly be compared with actual balances at the end of each month so that potential problems can be detected long before a crisis occurs.

Corrective Action

Excessive receivables or inventories can be uncovered and corrective action taken to free cash to meet your needs. The amount of capital available to you from trade creditors can be maximized so that you can reduce your reliance upon expensive borrowing to provide the cash needed to meet your obligations.

Anticipating Capital Needs

When extra capital is needed, your ability to forecast the timing and amount of the requirement will greatly increase your ability to secure it on favorable terms. You can present a more persuasive argument to bankers or investors to secure the capital that you need. Your preparation of a financial plan will enhance their confidence in your business' stability and your own skill as a manager. These are the qualities that they seek to provide them with protection for their money.

Utilization of Profit

In the long run, you will be able to put the profit from operations to better use, strengthening your capital foundation and reducing your reliance upon outside capital resources.

By so doing, your business will avoid the fate of so many others where substantial investments of talent, time, and money are wasted because of insufficient attention to the capital needs of the business.

EXHIBIT 1

WESTERN APPLIANCES, INC.

CASH FLOW STATEMENT

WORKSHEET

ASSETS

	12/31/78	12/31/79	USES (+)	SOURCES (-)
Cash	$ 25,000	$ 30,000	$ 5,000	
Accounts Receivable	120,000	100,000		$20,000
Inventory	120,000	160,000	40,000	
Fixed Assets	40,000	50,000	10,000	
less: Accumulated Depreciation	(15,000)	(20,000)		5,000
Total Assets	$290,000	$320,000		

LIABILITIES AND NET WORTH

	12/31/78	12/31/79	USES (-)	SOURCES (+)
Note Payable-Bank		$ 20,000		$20,000
Accounts Payable	$ 80,000	100,000		20,000
Current Portion-Long-Term Debt	25,000	25,000		
Accrued Liabilities	10,000	15,000		5,000
Long Term Debt	50,000	25,000	$25,000	
Capital Stock	50,000	50,000		
Retained Earnings	75,000	85,000		10,000
Total Liabilities and Net Worth	$290,000	$320,000	$80,000	$80,000

EXHIBIT 2

WESTERN APPLIANCES, INC.

SOURCES AND USES OF CASH

1979

SUMMARY

SOURCES	
Accounts Receivable reduction	$20,000
Depreciation reduction	5,000
Note Payable-Bank reduction	20,000
Accounts Payable increase	20,000
Accrued Liabilities increase	5,000
Retained Earnings	10,000
Total	$80,000

USES	
Cash increase	$ 5,000
Inventory increase	40,000
Fixed Assets acquired	10,000
Long Term Debt reduction	25,000
Total	$80,000

EXHIBIT 3

WESTERN APPLIANCES, INC.

SALES AND EXPENSE FORECAST
JANUARY 1 TO DECEMBER 31, 1980

Sales	$1,400,000
Cost of Sales	1,120,000
Gross Profit	$ 280,000
Operating Expenses	
Salary-Owner	$ 26,000
Salary-Office Manager	18,000
Salaries-Salesmen	12,000
Commissions-Salesmen	28,000
Salaries-Warehouse	23,000
Salaries-Clerical	14,000
Payroll Taxes	10,000
Employee Benefits	9,000
Rent	10,000
Utilities	4,000
Telephone	3,000
Supplies	2,000
Advertising and Promotion	15,000
Travel and Entertainment	13,000
Freight	18,000
Professional Fees	5,000
Depreciation	8,000
Total Operating Expenses	$ 218,000
Profit Before Interest and Taxes	$ 62,000
Interest	17,000
Profit Before Income Taxes	$ 45,000
Income Taxes	15,000
Net Profit	$ 30,000

EXHIBIT 4

WESTERN APPLIANCES, INC.

CASH FORECAST, 1980

ASSETS

	12/31/79	12/31/80	USES (+)	SOURCES (-)
Cash	$ 30,000	$ 57,000	$27,000	
Accounts Receivable	100,000	117,000	17,000	
Inventory	160,000	171,000	11,000	
Fixed Assets	50,000	60,000	10,000	
less: Accumulated Depreciation	(20,000)	(28,000)		$ 8,000
Total Assets	$320,000	$377,000		

LIABILITIES AND NET WORTH

	12/31/79	12/31/80	USES (-)	SOURCES (+)
Note Payable-Bank	$ 20,000	$ 87,000		$67,000
Accounts Payable	100,000	100,000		
Current Portion-Long Term Debt	25,000	25,000		
Accrued Liabilities	15,000	15,000		
Long Term Debt	25,000	-	$25,000	
Capital Stock	50,000	50,000		
Retained Earnings	85,000	100,000		15,000
Total Liabilities and Net Worth	$320,000	$377,000	$90,000	$90,000

EXHIBIT 5

WESTERN APPLIANCES, INC.

SOURCES AND USES OF CASH, 1980

SOURCES	
Depreciation	$ 8,000
Note Payable increase	67,000
Retained Earnings increase	15,000
	$90,000
USES	
Cash increase	$27,000
Accounts Receivable increase	17,000
Inventory increase	11,000
Fixed Assets increase	10,000
Long Term Debt reduction	25,000
	$90,000

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